CLAIMS

1. Digital transmission method of the error-correcting coding type, comprising, before a step of transmitting on a channel, a coding procedure, applying a given coding scheme in order to generate, from a useful information item, a coded information item with a certain redundancy, and comprising at least one puncturing step applying a given puncturing scheme, and, after said step of transmitting on said channel, a decoding procedure, applying a given decoding scheme, in order to obtain, from an information item to be decoded, an estimate of said useful information item, correcting transmission errors by means of said certain redundancy, and comprising at least one depuncturing step applying a given depuncturing scheme, said transmission method being characterised in that it also comprises a step of observing the transmission conditions in order to determine at least one parameter characteristic of the transmission conditions, a puncturing scheme selection step (2) for selecting, according to said at least one parameter, an optimum performance puncturing scheme amongst a plurality of predetermined puncturing schemes, a depuncturing scheme selection step (12) for selecting, according to said at least one parameter, a depuncturing scheme corresponding to said optimum performance puncturing scheme amongst a plurality of predetermined depuncturing schemes, the overall efficiency of said coding procedure associated with said at least one puncturing step being a constant efficiency.

2. Digital transmission method of the error-correcting coding type according to Claim 1, characterised in that a parameter characteristic of the transmission conditions can be the bit error rate, the packet error rate, the signal to noise ratio, the signal to interference plus noise ratio, the number of active users of a telecommunication system, the quality of service required by the transmission system, or the speed of movement of the user of the transmission system.

3. Digital transmission method of the error-correcting coding type according to Claims 1 or 2, characterised in that, said coding procedure comprising a plurality of elementary coding steps associated in parallel, each of said elementary coding steps generating an elementary coded information item, also comprises a coding scheme adaptation step (3) which checks whether said puncturing scheme selected by said puncturing scheme selection step (2) leads to the full puncturing of the elementary coded information of one of said elementary coding steps and which, if applicable,

modifies said coding scheme so as to no longer have to use said at least one of said elementary coding steps.

4. Digital transmission method of the error-correcting coding type according to Claim 3, characterised in that said coding procedure applies a coding scheme of the convolutional coding type, said elementary coding steps being associated in parallel and each generating an elementary coded information item issuing from the product of convolution of a sequence constituted by said useful information item and by a certain number of auxiliary information items, possibly corresponding to previous useful information items, with a response defined by a generator polynomial.

5. Digital transmission method of the error-correcting coding type according to Claim 3, characterised in that said coding procedure applies a coding scheme of the turbo-coding type, said elementary coding steps being concatenated in parallel, in association with adapted interleaving steps, a puncturing step occurring after a multiplexing step combining the elementary coded information items of said elementary coding steps.

6. Digital transmission method of the error-correcting coding type according to Claim 5, characterised in that said coding procedure applies a coding scheme of the parallel concatenation turbo-coding type.

7. Digital transmission method of the error-correcting coding type according to Claim 5, characterised in that said coding procedure applies a coding scheme of the parallel concatenation block turbo-coding type.

8. Digital transmission method of the error-correcting coding type according to any one of Claims 3 to 7, characterised in that, said decoding procedure comprising a plurality of elementary decoding steps corresponding respectively to said elementary coding steps, each of said elementary decoding steps processing an information item to be decoded corresponding to said elementary coded information item of the corresponding elementary coding step, also comprises a decoding scheme adaptation step (13) which checks whether said depuncturing scheme selected by said depuncturing scheme selection step (12) indicates that at least one of said elementary decoding steps corresponds to an elementary coding step whose elementary coded information is fully punctured and which, if applicable, modifies said decoding scheme so as to no longer have to use said at least one of said elementary decoding steps.

9. Digital transmission method of the error-correcting coding type according to any one of Claims 3 to 7, characterised in that, said decoding procedure reconstituting the useful information from n information items to be decoded corresponding to n coded information items representing the useful information issuing from said elementary coding steps, also comprises a decoding scheme adaptation step (13) which checks whether said depuncturing scheme selected by said depuncturing scheme selection step (12) indicates that at least one of said coded information items was fully punctured and which, if applicable, modifies said decoding scheme so as to no longer take into account the information to be decoded corresponding to said at least one of said coded information items.